



DEPARTMENT OF GENERAL SERVICES

Executive Office

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November 3, 2003

Ms. Diane F. Boyer-Vine
Legislative Counsel
State Capitol, Room 3021, B-30
Sacramento, CA 95814

Dear Ms. Boyer-Vine:

Assembly Bill X1 29 (Chapter 8, Statutes of 2001, First Extraordinary Session) requires the Department of General Services (DGS) to submit an initial report to the Legislature and to the Governor on energy projects two years after the passage of the measure and every two years thereafter. The attached Energy Projects Report fulfills this requirement.

If you need further information or assistance, you may wish to have your staff contact Glenn Connor, Energy Management, Department of General Services, at (916) 323-8777.

Sincerely,

William J. Jefferds, Ed. D.
Director, Department of General Services

WJJ:GC:rt

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Sacramento, CA 95814
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Mr. E. Dotson Wilson
Chief Clerk of the Assembly
State Capitol, Room 3196, E-24
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Mr. Gregory Palmer Schmidt
Secretary of the Senate
State Capitol, Room 3044, E-22
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COPY OF LEGISLATIVE COUNSEL'S LETTER TO EACH OF THE FOLLOWING:

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Office of the Governor
State Capitol, First Floor, E-15
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915 L Street, A-15
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LEGISLATURE--REVISED 10/20/03

Debbie Baker, Budget and Planning Officer
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707 Third Street, 9th Floor, Z-1
West Sacramento, CA 95605
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RENEWABLE ENERGY GENERATION PROJECTS REPORT

The attached report is in response to Government Code Section 14714.

The Department of General Services (DGS), in cooperation with the Governor's Office of Planning and Research, developed and administered a voluntary survey in 2001 identifying planned energy projects and estimated energy savings at state facilities. The information was updated in 2002. This report combines the survey data reported by other state agencies and actual data from the DGS managed energy projects.

Efforts to collect energy use data, monitor ongoing projects, develop new projects, and complete existing projects have been successful, given the available program resources. Real time monitoring of energy usage has been established at 80 facilities throughout the state. Advanced metering has accurately tracked and helped reduce energy use over the past 22 months. Additionally, the largest photovoltaic array on any state facility (at the time) was successfully completed at Sacramento's Butterfield Office Complex in August 2002 on behalf of the State Franchise Tax Board. This 470 kW array on existing rooftop has truly broken new ground prompting more demand for renewable energy on other state facilities. Future renewable energy projects, however, are now hampered by the latest ten year restrictions on repayment periods for equipment with life cycles of 20-30 years. Therefore, there remains considerable opportunity to implement efficiencies at many state facilities.

Active distributed generation projects that were initiated after passage of ABX1 29 will generate a peak load savings of about 2.6 megawatts. Additionally, the DGS has a pending Request for Proposals for third-party distributed generation, including provisions for solar power and fuel cells. While it remains to be seen which of these sites will prove commercially viable, the business model reflected in this effort has great potential for use in generating new third-party partnerships with other state and local government agencies. The DGS is continuing to collaborate with the Consumer Power and Conservation Financing Authority to develop a viable solar (renewable) program for state sites along these lines. The DGS is also working with the California Energy Commission and other third parties to develop alternate funding options for state energy projects.

A BRIEF DESCRIPTION OF THE ATTACHMENTS IS PROVIDED BELOW

- **ATTACHMENT ONE**

Attachment one is a comprehensive report on cumulative energy savings by all reported state energy projects over the last two years. State energy projects completed over the last two years have already generated peak load savings of almost 75 megawatts. In addition, there are another 29 projects currently underway that will generate an additional peak load savings of almost 24 megawatts when completed by October 2004. The savings shown include both energy efficiency and distributed generation projects that were initiated prior to the passage of ABX1 29. It should also be noted that these numbers only reflect energy projects approved for funding and do not include the prospective energy projects that represent a significant unrealized potential for energy savings at state sites.

- **ATTACHMENT TWO**

Attachment two is a list of the DGS distributed generation projects initiated after the passage of ABX1 29.

- **ATTACHMENT THREE**

Attachment three is a copy of the Joint Legislative Budget Committee letter, dated February 6, 2002, which established guidelines for energy projects.

ATTACHMENT 1
DGS ENERGY MANAGEMENT
March 10, 2003
SAVINGS GENERATED BY STATE ENERGY PROGRAM

I. Energy Projects Status – Current Projects

STATUS	TOTAL PROJECTS	PRE-DEVELOPMENT	DEVELOPMENT	FUNDING & EXECUTION	COMPLETED	ON HOLD	NO FURTHER ACTION
NUMBER OF PROJECTS							
STATEWIDE	431	168	8	29	55	7	164
EM	395	165	8	27	35	7	153
COST OF PROJECTS (\$M)							
STATEWIDE	\$157.1			\$ 72.3	\$76.8	\$8.0	
EM	\$91.7			\$72.0	\$11.7	\$8.0	
PEAK LOAD REDUCTION OF PROJECTS (MW)							
STATEWIDE	98.6			23.9	74.6	.1	
EM	33.1			20.7	12.3	.1	

NOTES: The “Statewide” listing is the cumulative total of all energy projects undertaken by all state agencies, including the universities. The “EM” listing is a subset of the “Statewide” listing that shows the status of all of the energy projects that are being developed through the DGS. These tables only show energy savings and costs for projects that are officially approved or pending final approval.

The importance of the “Statewide” active energy projects that did not involve EM is that they include a number of large cogeneration projects and were funded before the crisis, and then accelerated in response to the crisis. This allowed the state to achieve some significant energy savings early into the crisis. Whereas, the “EM” projects are primarily smaller projects at a large number of sites that will continue to bring new energy savings on line for years to come.

SUMMARY:

Total Number of Completed Energy Projects:	55
Total Peak Load Energy Saved:	74.6 MW
Total Cost of Completed Energy Projects:	\$76.8 m
Projected Peak Energy Savings by October 2004	98.3 MW (includes only projects underway)

Attachment 2

**DGS ENERGY MANAGEMENT
DISTRIBUTED GENERATION PROJECTS AT STATE SITES
April 2003**

CURRENT OR COMPLETED DISTRIBUTED GENERATION PROJECTS	PEAK LOAD SAVINGS (kW)	ANNUAL ENERGY SAVINGS (kWH)
FRANCHISE TAX BOARD PHOTOVOLTAIC – Solar Project – Phase I	470	803,940
AVENAL STATE PRISON – Cogeneration Project	339	2,745,000
EDMUND G. BROWN BUILDING (CPUC) – 3 rd party cogeneration project	400	1,017,900
SAN FRANCISCO CIVIC CENTER – 3 rd party cogeneration project	800	5,908,500
ELIHU HARRIS STATE OFFICE BUILDING – 3 rd party cogeneration project	600	2,019,700

POTENTIAL 3RD PARTY DISTRIBUTED GENERATION AT DGS SITES (included in pending RFP)	POTENTIAL PEAK LOAD SAVINGS (kW)	POTENTIAL ANNUAL ENERGY SAVINGS (kWH)
PRIMARY FACILITIES		
BATESON BUILDING *	188	296,596
BOARD OF EQUALIZATION *	800	2,560,000
EDD ANNEX (SOLAR) *	72	113,246
EDD HQ BUILDING *	400	1,280,000
ENERGY COMMISSION BUILDING *	103	161,780
OFFICE BUILDINGS 8 & 9 *	250	1,971,000
EDMUND G. BROWN (CPUC) BLDG. *	171	269,633
FRESNO OB&G STATE OFFICE BUILDING	195	624,000
MISSION VALLEY STATE OFFICE BUILDING	307	982,400
SANTA ROSA STATE OFFICE BUILDING	141	451,200
SECONDARY FACILITIES		
BONDERSON BUILDING		
DWR FRESNO ANNEX BUILDING		
JUNIPERO SERRA STATE OFFICE BUILDING		
LEGISLATIVE OFFICE BUILDING		
RESOURCES BUILDING		
RONALD REAGAN BUILDING		
SAN FRANCISCO CIVIC CENTER		
SANTA ANA STATE OFFICE BUILDING		
VAN NUYS STATE OFFICE BUILDING		

OTHER POTENTIAL DISTRIBUTED GENERATION AT STATE SITES	PEAK LOAD SAVINGS (kW)	ANNUAL ENERGY SAVINGS (kWH)
CDC, LANCASTER STATE PRISON	2500	20,144,498
CDC, MULE CREEK STATE PRISON	2700	28,362,122
FRANCHISE TAX BOARD – Solar Project, Phase II	470	803,940
DGS, FRESNO ANNEX - Solar Project	158	197,570
DGS, VAN NUYS BUILDING - Solar Project	102	160,788

Note: 1) Shaded boxes in Secondary Facilities List appear to have potential for distributed generation, but have not been screened for estimated potential.
2) Asterisk indicates facilities with solar PV and fuel cell power generation potential.

ATTACHMENT 3

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TEL:916 322 0717

P. 002

Feb-07-2002 12:38pm From-

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February 6, 2002

Mr. B. Timothy Gage, Director
Department of Finance
Room 1145, State Capitol
Sacramento, California 95814

Dear Mr. Gage:

On November 7, 2001, you notified me pursuant to Section 15814.20 of the Government Code of your intention to recommend to the State Public Works Board (SPWB) that it approve the Department of General Services (DGS) entering into three energy service contracts (ESCs). These are for energy conservation projects at the Elihu Harris Building in Oakland for \$1,190,000, the Edmund G. Brown Building in San Francisco for \$1,840,000, and the San Francisco Civic Center Building for \$1,355,000. These ESCs are to serve as security for the SPWB to obtain loans from the Pooled Money Investment Board and to subsequently issue energy revenue bonds. The individual energy conservation measures to be funded in this way are intended to produce energy savings sufficient to repay their proportional share of the energy revenue bonds.

The three projects above were selected by DGS from a larger list of projects. To qualify, the department required that their payback periods be less than their asset life spans, and their estimated annual cash flows over the lifetime of the bonds be positive. In making these calculations, DGS assumed that energy prices would hold constant at their late 2001 levels over the projects' lifetimes. It also discounted the estimated energy savings from the projects by 10 percent to account for uncertainties regarding expected energy savings.

ATTACHMENT 3

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Mr. B. Timothy Gage

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February 6, 2002

The Legislative Analyst's Office advises me that in their opinion, the general approach used by DGS to evaluate these projects is reasonable, including the use of payback criteria, present-value considerations, and cash-flow analysis. It expressed one major concern—the ability of the proposed energy conservation measures to generate sufficient net energy cost savings to repay the energy revenue bonds in an appropriate time frame, which in turn is highly dependent on such factors as future energy costs and interest rates. For example, recent developments involving energy-related prices and the state's evolving deregulated environment both suggest that it is possible that energy prices in the future could be below those assumed by DGS, which would in turn make the projects less feasible.

I understand that DGS conducted various sensitivity analyses to show the effects of different energy price assumptions, and that these analyses showed that:

- The financial feasibility of the proposed projects varies considerably, depending on the assumptions used.
- The estimated benefits of the projects significantly erode and thus their payback periods elongate and rates of return drop when lower energy prices are assumed. This occurs even for relatively modest price-decline assumptions. For example, the payback periods rise by an average of 65 percent for a 5 percent price decline and 80 percent for a 10 percent decline.

In addition, I understand that under current budgeting practices, the General Fund will not necessarily be completely "held harmless" in the out-years if actual energy-related savings do not meet expectations.

It also is the case that new and improved energy-related technologies are constantly being developed, which argues for preferring shorter rather than longer payback periods so that new technologies can be constantly phased in.

Taken together, I believe that the above factors suggest that a payback period shorter than an asset's life span should be required to fund projects such as these. Although various different standards can be used, I believe that a reasonable general "rule of thumb" would be that a project's payback period be the lesser of ten years or one-half its life span. This general standard should be applied assuming the entire estimated energy savings amount, not just 90 percent. I believe that this standard will protect the General Fund while still being more generous than those commonly used by private industry and thus would be supportive of state energy-saving investments.

ATTACHMENT 3

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Mr. B. Timothy Gage

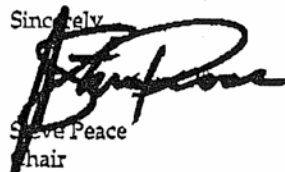
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February 6, 2002

I understand that the asset life spans reported by DGS for the three projects are 18 years for the Elihu Harris Building, 18 years for the Edmund G. Brown Building, and 19 years for the San Francisco Civic Center Building. By comparison, the payback periods for these projects are approximately nine, eleven, and seven years, respectively. Thus, only the first and third projects meet the standard. However, given that the Edmund G. Brown Building fails to meet the standard by only a small margin, I am also approving this project on an exception basis.

Given the above, I approve the proposed ESCs for the Elihu Harris Building, the Edmund G. Brown Building, and the San Francisco Civic Center Building. In addition, I will be applying the above standard when evaluating future ESCs.

Sincerely,



Steve Peace
Chair

cc: Members of the Joint Legislative Budget Committee